



# THE JHARKHAND GAZETTE EXTRAORDINARY PUBLISHED BY AUTHORITY

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**JHARKHAND STATE ELECTRICITY REGULATORY COMMISSION**  
JSERC (Terms and Conditions for Determination of Transmission Tariff)  
Regulations, 2015

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## NOTIFICATION

The 10<sup>th</sup> November, 2015

## CHAPTER I :

### SCOPE, EXTENT AND DEFINITIONS

#### **A1: SHORT TITLE, COMMENCEMENT AND EXTENT**

- 1.1 **No. 48--**These Regulations shall be called “Jharkhand State Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2015”.
- 1.2 These Regulations shall extend to the entire State of Jharkhand.
- 1.3 These Regulations shall come into force from the date of its publication in the Official Gazette of the Government of Jharkhand and unless reviewed earlier or extended by the Commission, shall remain in force up to 31<sup>st</sup> March, 2021.

#### **A2: DEFINITIONS AND INTERPRETATION**

- 2.1 In these Regulations, unless the context otherwise requires-
  - 1) “**Act**” means the Electricity Act, 2003 (36 of 2003), including amendments thereto;

- 2) **“Accounting Statement”** means for each financial year the following statements, namely-
  - a. Balance sheet, prepared in accordance with the Companies Act, 2013, as amended from time to time; together with notes thereto, and such other supporting statements and information as the Commission may direct from time to time;
  - b. Profit and loss account, complying with the requirements contained in the Companies Act, 2013, as amended from time to time;
  - c. Cash flow statement, prepared in accordance with the Accounting Standard on Cash Flow Statement (AS-3) of the Institute of Chartered Accountants of India;
  - d. Report of the statutory auditor(s) of the Transmission Company;
  - e. Directors’ report and accounting policies; and
  - f. Cost records if any, prescribed by the Central Government under the Companies Act, 2013, as amended from time to time;
- 3) **“Additional Capitalisation”** means the capital expenditure incurred or projected to be incurred, after the date of commercial operation of the project and admitted by the Commission after prudence check, subject to provisions of clause 0, 0 of these Regulations ;
- 4) **“Aggregate Revenue Requirement”** or **“ARR”** means the costs pertaining to the Licensed Business which are permitted, in accordance with these Regulations, to be recovered in the form of tariffs and charges as determined by the Commission;
- 5) **“Allotted Transmission Capacity”** means and includes the power transfer in MW between the specified point(s) of injection and point(s) of drawal allowed to a Long Term Transmission Customer on the intra-state transmission system under the normal circumstances and the expression “allotment of capacity” shall be construed accordingly;
 

Allotted Transmission Capacity to a Long Term Transmission Customer shall be sum of the generating capacities allocated to the Long Term Transmission Customer from the State Generating Stations and Inter State Generating Stations and the contracted power, if any;
- 6) **“Applicant”** means a Transmission Licensee who has made an application for determination of transmission charge in accordance with these Regulations and includes a Transmission Licensee whose tariff is subjected to review of the Commission;
- 7) **“Auditor”** means an auditor appointed by the Transmission Licensee, as the case may be, in accordance with the provisions of the Companies Act, 2013, as amended from time to time, or any other law for the time being in force;

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- 8) **“Availability”** in relation to a Transmission System for a given period shall mean the time in hours during that period in which the Transmission System is capable of transmitting electricity at its declared voltage to the delivery point and shall be expressed in percentage of total hours in the given period;
- 9) **“Base Year”** means the Financial Year immediately preceding the first year of the Control Period, and used for the purposes of these Regulations;
- 10) **“Beneficiary(ies)”** shall mean Long-term, Medium-term or Short-term Transmission Customers whose tariff is determined under these Regulations;
- 11) **“Capital Cost”** means the capital cost as defined in clause 0, 0 of these Regulations;
- 12) **“CERC”** or **“Central Commission”** means the Central Electricity Regulatory Commission;
- 13) **“Change in Law”** means occurrence of any of the following events:
- (i) the enactment, bringing into effect, adoption, promulgation, amendment, modification or repeal of any law; or
  - (ii) change in interpretation of any law by a competent court, Tribunal or Indian Governmental Instrumentality which is the final authority under law for such interpretation; or
  - (iii) change by any competent statutory authority, in any consent, approval or licence available or obtained for the project.
- 14) **“Commission”** means the Jharkhand State Electricity Regulatory Commission (JSERC);
- 15) **“Conduct of Business Regulations”** means the JSERC (Conduct of Business) Order 2003, as amended from time to time;
- 16) **“Control Period”** means a multi-year period fixed by the Commission, from 1st April 2016 and up to 31st March 2021;
- 17) **“Cut off Date”** means 31st March of the year closing after two years of the year of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of a year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation;
- 18) **“Date of Commercial Operation”** or **‘COD’** means the date declared by the Transmission Licensee from 0000 hour of which an element of the transmission system is in regular service after successful charging and trial operation:

Provided that the date shall be the first day of a calendar month and transmission charge for the element shall be payable and its availability shall be accounted for, from that date;

Provided further that in case an element of the transmission system is ready for regular service but is prevented from providing such service for reasons not attributable to the Transmission Licensee, its suppliers or contractors, the Commission may approve the date of commercial operation prior to the element coming into regular service;

- 19) **“Day”** means the 24 hour period starting at 0000 hour;
- 20) **“Distribution Licensee”** means a person who has been granted a Distribution License under Section 14 of the Act and shall include a deemed licensee;
- 21) **“Expenditure Incurred”** means the fund, whether the equity or debt or both, actually deployed and paid in cash or cash equivalent, for creation or acquisition of a useful asset and does not include commitments or liabilities for which no payment has been released;
- 22) **“Existing Project”** means the project declared under commercial operation from a date prior to 1.04.2016;
- 23) **“Financial Year”** means a period commencing on 1st April of a calendar year and ending on 31st March of the subsequent calendar year;
- 24) **“Grid Code”** means the JSERC (Grid Code) Regulations, 2008, as amended or replaced;
- 25) **“Implementation Agreement”** means the agreement, contract or memorandum of understanding, or any such covenant, entered into between the transmission licensee and the Long Term Transmission Customer for construction of the transmission system;
- 26) **“Licensee”** means a person who has been granted licence under Section 14 of the Act and shall include deemed Licensee under the Act;
- 27) **“Licensed Business”** means the functions and activities, which the Licensee is required to undertake in terms of the License granted by the Commission or as a deemed Licensee under the Act;
- 28) **“Long Term Transmission Customer”** means a person having a long-term lien exceeding three years over an inter / intra-State Transmission System by virtue of paying transmission charges and a Distribution Licensee shall necessarily be a long term user for which it will be required to enter into appropriate agreement with the Transmission Licensee;
- 29) **“Medium Term Transmission Customer”** means a person having a medium-term lien for means the period exceeding three months and upto three Years over an inter / intra-State Transmission System by virtue of paying transmission charges;
- 30) **“Non-Tariff Income”** means income relating to the Licensed Business other than from tariff (intra-state transmission of electricity), and excluding any income from Other Business;

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- 31) **“Other Business”** means any business of the Transmission Licensee other than the Licensed Business;
- 32) **“Open Access Customer”** means a consumer permitted by the Commission to receive supply of electricity from a person, other than Distribution Licensee of its area of supply, and the expression includes a generating company and a Licensee, who has availed of or intends to avail of open access;
- 33) **“Operation and Maintenance Expenses”** or **“O&M Expenses”** means the expenditure incurred on operation and maintenance of the project, or part thereof, and includes the expenditure on manpower, repairs, spares, consumables, insurance and overheads;
- 34) **“Original Project Cost”** means the capital expenditure incurred by the Transmission Licensee, within the original scope of the project up to the cut-off date as admitted by the Commission;
- 35) **“Project”** means the transmission system;
- 36) **“Rated Voltage”** means the manufacturer’s design voltage at which the Transmission System is designed to operate and includes such lower voltage at which any transmission line is charged or for the time being charged, in consultation with Long Term Transmission Customers;
- 37) **“Short Term Transmission Customer”** in the context of usage of Transmission System means a person having short term lien for a period upto three months over an inter / intra-State Transmission System by virtue of paying transmission charges;
- 38) **“State Load Despatch Centre”** or **“SLDC”** means the centre established by the State Government for purposes of exercising the powers and discharging the functions under Section 31 of the Act;
- 39) **“State”** means the Jharkhand State;
- 40) **“Tariff Period”** shall mean the period from 1st April 2016 to 31st March 2021 for which Tariff is determined by the Commission under these Regulations;
- 41) **“Transmission Business”** means the business of transmission of electricity by a Transmission Licensee to a Beneficiary and permitted Open Access Customers;
- 42) **“Transmission Licensee”** means a Licensee authorized to establish or operate intra- state transmission lines;
- 43) **“Transmission service agreement”** means the agreement, contract, memorandum of understanding, or any such covenant, entered into between the transmission licensee and the Long Term Transmission Customer(s) for the use of Transmission System;
- 44) **“Transmission System”** means the system consisting mainly of extra high voltage electric lines and associated equipments and substations having design

voltage higher than 66 KV including any other system of lower voltage as the Transfer Scheme or the Commission may specifically recognise, owned or controlled by the Transmission Licensee, and used for the purposes of the transportation of electricity between the switchyards of two Generating Stations or from the switchyard of a Generating Station to a substation, or between substations, or to or from any external interconnection and includes all bays/equipment up to the interconnection with the Distribution System, and any plant, apparatus and meters owned or used in connection with the transmission of electricity, but shall not include any part of a Distribution System.

- 45) **“Transmission System Availability Factor”** means Availability of the Transmission System as certified by the State Load Despatch Centre;
- 46) **“Useful life”** in relation to a unit of a Transmission System from the COD shall mean 25 years for sub-station and 35 years for transmission line;
- 47) **“Year”** means financial year.

2.2 Words and expressions used but not defined in these Regulations shall have the meanings as assigned to those in the Act.

2.3 All proceedings under these Regulations shall be governed by the Conduct of Business Regulations of JSERC.

### **A3: SCOPE OF REGULATIONS AND EXTENT OF APPLICATION**

3.1 Subject to the provisions of the Act, Rules and Policies, these Regulations shall apply in all cases of determination of Transmission Tariff under Section 62 of the Act. It shall however, not apply in the case where tariff has been determined through a transparent process of bidding in accordance with the guidelines issued by the Central Government as per the provisions of Section 63 of the Act.

3.2 In accordance with the principles laid out in these Regulations, the Commission shall determine the Aggregate Revenue Requirement (ARR) for the Transmission Business.

### **A4: NoRMS OF OPERATION TO BE THRESHOLD NORMS**

4.1 For removal of doubts, it is clarified that the norms of operation specified under these Regulations are the threshold norms and this shall not preclude the Transmission Licensee and Beneficiaries from agreeing to improved norms of operation and in such case the improved norms shall be applicable for the determination of tariff for next tariff period or Control Period.

**CHAPTER II:**  
**TARIFF FRAMEWORK AND GUIDING PRINCIPLES FOR MULTI**  
**YEAR TARIFF (MYT)**

**A5: TARIFF FRAMEWORK**

- 5.1 The Commission shall adopt Multi Year Tariff framework for approval of ARR and Tariff during the **Control Period**.
- 5.2 The **Control Period** shall commence from 1st April 2016 and shall extend up to 31st March 2021. The ARR filings for the Control Period shall be done in accordance with the MYT framework contained in these Regulations;

**Multi Year Tariff (MYT) Framework for Control Period (FY 2016-17 to FY 2020-21)**

- 5.3 Transmission Licensee shall file MYT Application and other documents with the Commission as per the timelines specified in Section 0 of these Regulations.

The Application shall include statements containing Aggregate Revenue Requirement (ARR) for the Previous Year, Base Year and the projections for Control Period. The information for the Previous Year should be based on audited accounts.

- 5.4 The Guiding Principles for MYT framework are described in Section 0 of these Regulations.
- 5.5 The principles for determination of ARR for the Control Period is described in Chapter III of these Regulations and the procedure for annual filing during the control period is described in Chapter IV of these Regulations.

**A6: GUIDING PRINCIPLES FOR MYT FRAMEWORK**

- 6.1 The Commission in specifying these Regulations shall be guided by the principles contained in Sections 61 and 62 of the Act to encourage competition, efficiency, economical use of resources, good performance and optimum investments.
- 6.2 The Commission shall adopt Multi Year Tariff Framework for approval of ARR and expected revenue from tariffs and charges. The ARR and tariffs would be determined for the Control Period.
- 6.3 The Multi Year Tariff framework shall be based on the following:
- (a) Business Plan of the Transmission Licensee for the entire Control Period to be submitted to the Commission for approval, prior to the start of the Control Period or within such period as the Commission may direct;
  - (b) Applicant's forecast of expected transmission tariff for each year of the Control Period, based on reasonable assumptions of the underlying financial and operational parameters, as submitted in the Business Plan
  - (c) Trajectory for specific parameters shall be stipulated by the Commission, where the performance of the Applicant is sought to be improved through incentives and disincentives;

- (d) Annual review of performance will be conducted vis-à-vis the approved forecast;

**Base Year**

- 6.4 The values for the Base Year of the Control Period will be determined based on the audited accounts, best estimate for the relevant years and other factors considered relevant by the Commission, and after applying the tests for determining the controllable or uncontrollable nature of various items.
- 6.5 The Commission shall normally not revisit the performance targets even if the targets are fixed on the basis of base values of un-audited accounts.

**Business Plan**

- 6.6 The Transmission Licensee shall file for the Commission's approval, a Business Plan approved by the Board of Directors, as per the timelines specified in Section 0 of these Regulations. The Business Plan shall be for the entire Control Period and shall, inter alia, contain;
- (a) **Capital Investment Plan:** This should be commensurate with load growth and quality improvement proposed in the Business Plan. The investment plan should also include corresponding capitalisation schedule and financing plan;
  - (b) The appropriate capital structure and cost of financing (interest on debt) and return on equity, terms of the existing loan agreements, etc;
  - (c) **Operation and Maintenance (O&M) Expenses:** This shall include the costs estimated for the Base Year, the actual expenses incurred in the previous control period and the projected values for each year of the Control Period based on the proposed norms for O&M cost, including indexation and other appropriate mechanisms;
  - (d) **Depreciation:** Based on the fair life of the asset and capitalisation schedules for each year of the Control Period;
  - (e) **Performance Targets:** A set of targets proposed for controllable items such as Availability of transmission system, transformer failure rate, and any other parameters for quality of supply. The targets shall be consistent with the capital investment plan proposed by the Transmission Licensee;
  - (f) Proposals for Non-Tariff Income with item-wise description and details;
  - (g) Proposals in respect of income from Other Business; and
  - (h) **Other Information:** This shall include any other details considered appropriate by the Transmission Licensee for consideration during determination of tariff

**Capital Investment Plan**



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- 6.7 The Commission shall approve the system augmentation plan submitted by the Transmission Licensee, based on the load growth forecast during the Control Period. The same would be considered for computation of ARR, wherein the amount of electricity transmitted by the Transmission System shall be projected considering the estimated growth plan of its Beneficiaries and any plans of new transmission system, based on network expansion plans within the State.
- 6.8 Capital investment plan submitted by the Licensee shall also provide details of ongoing projects that will spill into the Control Period and new projects that will commence during the Control Period but may extend beyond the Control Period.
- 6.9 The capital investment plan shall be in conformity with the plans made by the CEA/CTU and with the capital investment plans of the Distribution Licensee and the Generating Company. The investment plan shall be scheme-wise and each scheme shall include:
- (a) Purpose of investment (i.e. replacement of existing assets, meeting load growth, technical loss reduction, meeting reactive energy requirements, improvement in quality and reliability of supply, etc) ;
  - (b) Capital Structure;
  - (c) Capitalization Schedule;
  - (d) Financing Plan;
  - (e) Cost-benefit analysis;
  - (f) Improvement in operational efficiency envisaged in the control period;
- 6.10 For annual performance review, Transmission Licensee shall submit the actual capital expenditure incurred and capitalisation during the year under review along with the annual performance review Filing.
- 6.11 The Commission shall review the actual capital expenditure incurred and capitalisation at the end of each year of the Control Period vis-à-vis the approved capital expenditure and capitalisation schedule. In the normal course, the Commission shall not revisit the approved capital investment plan (capital expenditure and capitalisation schedule) during the Control Period and adjustment to depreciation and financing cost, which includes cost of debt (interest), working capital interest, cost of equity (return) for the actual capital expenditure incurred and capitalisation vis-à-vis approved capital investment plan (capital expenditure and capitalisation) shall be done at the end of Control Period.
- 6.12 The Commission shall also conduct a mid-term review at the end of second year of the Control Period. In case, the cumulative incurred capital expenditure and/or capitalisation deviates from the approved capital expenditure / capitalisation by more than 20% (cumulative), the Commission will make necessary changes to capital investment plan for the Control Period after consultation with Licensee and adjust depreciation and financing cost, which includes cost of debt (interest), working capital interest, cost of equity (return) based on the actual capital expenditure and/or capitalisation vis-à-vis approved capital expenditure / capitalisation;

Provided that the actual capital expenditure incurred shall be only for the schemes as per the approved Capital Investment plan.

- 6.13 In case the capital expenditure is required for emergency work which has not been approved in the capital investment plan, the Licensee shall submit an application (containing all relevant information along with reasons justifying emergency nature of the proposed work) seeking approval by the Commission. The Licensee shall take up the work prior to the approval of the Commission provided that the emergency nature of the scheme has been certified by the Board of Directors.

Provided that for the purpose of the clause 0 above, such approved capital expenditure shall be treated as a part of actual capital expenditure incurred to the Transmission Licensee as well as the approved capital expenditure by the Commission.

### **Performance Targets**

- 6.14 The Commission shall set targets for each year of the Control Period for the items or parameters that are deemed to be “controllable” and which includes:

- (a) Availability of the Transmission System;
- (b) Operation and Maintenance Expenditure which includes employee expenses, repairs and maintenance expenses, administration and general expenses and other miscellaneous expenses viz. audit fees, rents, legal fees etc;
- (c) Return on equity
- (d) Depreciation

Provided that capitalisation on account of any cost overrun shall not be allowed except in cases where the cost overrun is attributable to an approved change in scope of such project, change in statutory levies or any other circumstances beyond control of the transmission licensee, as the case may be.

- 6.15 Any financial loss on account of underperformance on targets for parameters specified in clause 0 of these Regulations is not recoverable through tariffs. Similarly, any financial gain on account of over-performance with respect to these parameters is to the Transmission Licensee’s benefit and shall not be adjusted in tariffs.

### **True Up in Control Period**

- 6.16 The true up across various controllable parameters shall be conducted as per principles stated below: -

- 6.17 For controllable parameters,

- (a) Any surplus or deficit on account of Operation and Maintenance (O&M) expenses shall be to the account of the Licensee and shall not be trued up in ARR; and

(b) at the end of the control period –

- (i) the Commission shall review actual capital investment vis-à-vis approved capital investment.
- (ii) depreciation and financing cost, which includes cost of debt including working capital (interest), cost of equity (return) shall be trued up on the basis of audited/authenticated information and prudence check by the Commission.;

Provided that in case of any change in capital investment plan for the Control Period as per clause 0 of these Regulations, depreciation and financing cost shall be adjusted during the midterm review based on the actual capital expenditure, actual capitalisation and revised capital investment plan (capital expenditure and capitalisation schedule) approved by the Commission.

- 6.18 Notwithstanding anything contained in these Regulations, the gains or losses in the controllable items of ARR on account of *force majeure* factors shall be passed on as an additional charge or rebate in ARR over such period as may be laid down in the order of the Commission.

#### **Refund of Excess Amount**

- 6.19 If the Tariff already recovered is more than the Tariff determined after true up, the Transmission Licensee shall refund to the Long Term Transmission Customers the excess amount so recovered along with simple interest at the rate equal to bank rate of Reserve Bank of India as on 1st April of the relevant year.
- 6.20 Similarly, in case the Tariff already recovered is less than the Tariff determined after true up, the Transmission Licensee shall recover from the Long Term Transmission Customers, the under recovered amount along with simple interest at the rate equal to bank rate of Reserve Bank of India as on 1st April of the relevant Year/Years subject to adhering to the timelines specified by the Commission for filing of True-up Application. In case, it is found that the filing of True-up is delayed due to the reasons attributable to the Transmission Licensee, the under recovery shall not bear any interest
- 6.21 The amount under-recovered or over-recovered, along with simple interest, wherever applicable, shall be recovered or refunded by the Transmission Licensee, in six equal monthly instalments starting within three months from the date of the tariff order issued by the Commission after the truing up exercise.

### **CHAPTER III:**

#### **DETERMINATION OF TARIFF**

##### **A7: PRINCIPLES FOR DETERMINATION OF TARIFF**

- 7.1 The Transmission Licensee shall segregate its business into Transmission Business and SLDC activity. The Transmission Business revenue requirement would be used for determining non-discriminatory transmission charges.

- 7.2 Till such time there is a complete segregation of accounts between Transmission Business and SLDC activity, the ARR for each business shall be supported by an allocation statement duly approved by the Board of the Transmission Licensee containing the apportionment of all costs, revenues, assets, liabilities, reserves and provisions between the Transmission Business, SLDC activity and any Other Business of the Transmission Licensee. The allocation statement shall also contain the methodology used for the apportionment between different businesses.

### **Capital Cost of the Project**

- 7.3 Capital cost for a Project shall include :

- (a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check shall form the basis for determination of tariff;
- (b) capitalised initial spares subject to the ceiling norms specified as under:
  - i. Transmission line- 0.75% of Original Project cost
  - ii. Transmission substation- 2.5% of Original Project cost
  - iii. Series compensation devices and HVDC Station- 3.5 % of Original Project cost

Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to clause 0 of these Regulations, such norms shall apply to the exclusion of the norms specified herein.

- (c) additional capital expenditure determined under clause 0 and 0 of these Regulation

Provided that the assets forming part of the Project, but not in use shall be taken out of the capital cost:

The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:

Provided that prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Central Commission from time to time:

Provided further that in cases where benchmark norms have not been specified by the Central Commission, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff:

Provided also that where the Transmission Service Agreement provides for ceiling of actual expenditure, the capital expenditure admitted by the Commission shall take into consideration such ceiling for determination of Tariff.

Provided also that in case of the existing projects, during Control period the capital cost admitted by the Commission prior to 1.04.2016 and the additional capital expenditure projected to be incurred for respective year of the control period, as may be admitted by the Commission, shall form the basis for determination of tariff.

### **Additional Capitalisation**

7.5 The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

- (i) Undischarged liabilities;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, subject to the provisions under clause 0,0 of these Regulations;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and
- (v) Change in law.

Provided that the details of works included in the original scope of work along with estimates of expenditure, undischarged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.

7.6 The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

- (i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;
- (ii) Change in law;
- (iii) In case of Transmission System any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of Transmission System.

Provided that in respect sub-clauses (iii) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture air conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machine, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.04.2016 for the Control period.

### **Renovation and Modernisation**

- 7.7 The Transmission Licensee for meeting the expenditure on Renovation and Modernization (R&M) for the purpose of extension of life beyond the useful life of the Transmission System, shall make an application before the Commission for approval of the proposal with a detailed project report giving complete scope, justification, cost-benefit analysis, estimated life extension from a reference date, financial package, phasing of expenditure, schedule of completion, reference price level, estimated completion cost including foreign exchange component, if any, consent of beneficiaries and any other information considered to be relevant by the Transmission Licensee.
- 7.8 Where the Transmission Licensee makes an application for approval of R&M proposal, the approval shall be granted after due consideration of reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.
- 7.9 Any expenditure incurred or projected to be incurred as admitted by the Commission after prudent check based on the estimates of Renovation and Modernization expenditure and life extension, and after writing off the original amount of the replaced assets and deducting the accumulated depreciation including advance against depreciation already recovered from the Original project cost, shall form the basis for determination of Tariff.

### **Debt-Equity Ratio**

- 7.10 For a project declared under commercial operation on or after 1.04.2016, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that where equity deployed is less than 30% of capital cost, the actual equity shall be considered for determination of tariff:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

### **Explanation:-**

- i. The premium, if any, raised by the Transmission Licensee, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the Transmission System.

- ii. In case of Transmission System declared under commercial operation prior to 1.4.2016, debt-equity ratio allowed by the Commission for determination of Tariff for the period ending 31.3.2016 shall be considered for determination of tariff.
- iii. Any expenditure incurred or projected to be incurred on or after 1.04.2016 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause 0 of this Regulation.

## Return on Equity

- 7.11 Return on equity shall be computed in rupee terms, on the equity base determined in accordance with clause 0 of these Regulations.
- 7.12 Return on equity shall be computed on pre-tax basis at the base rate of 15.50% applicable only for those Transmission systems which meet the norms of operation specified under clause 0 of these Regulations to be grossed up as per clause 0 of these Regulations.

Provided that return on equity with respect to the actual base rate applicable to the Transmission Licensee, in line with the performance of the respective Transmission System for the respective year during the Control period shall be trued up separately for each year of the Control period along with the tariff petition filed for the next Control period.

Provided that in case of Projects commissioned on or after 1st April, 2016, an additional return of 0.5% shall be allowed if such Projects are completed within the timeline specified in **Appendix-II** to these Regulations:

Provided further that the additional return of 0.5% shall not be admissible if the Project is not completed within the timeline specified above for reasons whatsoever.

- 7.13 The rate of return on equity shall be computed by grossing up the base rate with the applicable tax rate for the year applicable to the Transmission Licensee.

Provided that return on equity with respect to the actual tax rate applicable to the Transmission Licensee, in line with the provisions of the relevant Finance Acts of the respective year during the Control period shall be trued up separately for each year of the Control period along with the tariff petition filed for the next Control period.

- 7.14 Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where 't' is the applicable tax rate in accordance with clause 0 of these Regulations

### Illustration-

- (i) In case of Transmission Licensee paying Minimum Alternate Tax (MAT) @ 19.931% including surcharge and cess:

Rate of pre-tax return on equity =  $15.50 / (1 - 0.19931) = 19.358\%$

- (ii) In case of Transmission Licensee paying normal corporate tax @ 33.99% including surcharge and cess:

Rate of pre-tax return on equity =  $15.50 / (1 - 0.3399) = 23.481\%$ .

### **Interest and Finance Charges**

- 7.15 The loans arrived at in the manner indicated in clause 0 of these Regulations shall be considered as gross normative loan for calculation of interest on loan.
- 7.16 The normative loan outstanding as on 1.4.2016 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2016 from the gross normative loan.
- 7.17 The repayment for the year of the Tariff Period shall be deemed to be equal to the depreciation allowed for that year.
- 7.18 Notwithstanding any moratorium period availed by the Transmission Licensee, the repayment of loan shall be considered from the first year of commercial operation of the Project and shall be equal to the annual depreciation allowed.
- 7.19 The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each Year applicable to the Project:
- Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:
- Provided further that if the Transmission System does not have actual loan, then the weighted average rate of interest of the Transmission Licensee as a whole shall be considered:
- 7.20 Provided further, in case of new licensee commencing its operation after the date of effectiveness of these Regulations, and which doesn't has actual loan portfolio, the rate of interest shall be considered on normative basis and shall be equal to the Base rate of State Bank of India plus 200 basis points as on the date on which the licensee is declared under commercial operation.
- 7.21 The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.
- 7.22 The Transmission Licensee shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such refinancing shall be borne by the Beneficiaries and the net savings shall be shared between the Beneficiaries and the Transmission Licensee, in the ratio of 2:1.
- 7.23 The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.



- 7.24 In case of dispute, any of the parties may make an application in accordance with the Conduct of Business Regulation:

Provided that the Beneficiaries shall not withhold any payment on account of the interest claimed by the Transmission Licensee during the pendency of any dispute arising out of re-financing of loan:

### Depreciation

- 7.25 Depreciation shall be calculated for each year of the Tariff period, on the amount of Capital Cost of the assets admitted by the Commission;

Provided that depreciation shall not be allowed on assets funded by any capital subsidy / grant:

- 7.26 The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

- 7.27 Land other than land held under lease shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

- 7.28 Depreciation shall be calculated annually based on 'Straight Line Method' and at rates specified in **Appendix-I** to these Regulations for the assets of the Transmission System:

Provided that, the remaining depreciable value as on 31st March of the Year closing after a period of 12 Years from the Date of Commercial operation shall be spread over the balance useful life of the assets.

- 7.29 In case of the Existing Projects, the balance depreciable value as on 1.4.2016 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2016 from the gross depreciable value of the assets.

The rate of depreciation shall be continued to be charged at the rate specified in **Appendix-I** till cumulative depreciation reaches 70%. Thereafter the remaining depreciable value shall be spread over the remaining life of the asset such that the maximum depreciation does not exceed 90%.

- 7.30 Depreciation shall be chargeable from the first Year of commercial operation. In case of commercial operation of the asset for part of the Year, depreciation shall be charged on *pro rata* basis.

### Working Capital

- 7.31 The Commission shall determine the Working Capital requirement containing the following components:

(a) Maintenance spares @ 15% of the O&M expenses specified in clauses 0- 0 of these Regulations;

(b) Receivables equivalent to two months of annual fixed cost; and

(c) Operation and Maintenance expenses for one month

(d) Less: Interest on amount, if any, held as security deposits from Transmission system users.

### **Interest on Working Capital**

7.32 Rate of interest on working capital shall be on normative basis and shall be considered equal to the base rate of State Bank of India as on 30th September of the financial year in which the Petition is filed plus 350 basis points. At the time of true up, the interest rate shall be adjusted as per the actual rate prevailing on 1st April of the financial year for which truing up exercise has been undertaken.

7.33 The interest on working capital shall be payable on normative basis notwithstanding that the Transmission Licensee has not taken working capital loan from any outside agency.

### **Operation and Maintenance (O&M) expenses**

7.34 Operation and Maintenance (O&M) expenses shall comprise of the following:

(a) Salaries, wages, pension contribution and other employee costs;

(b) Administrative and General costs;

(c) Repairs and maintenance expenses; and

(d) Other miscellaneous expenses, statutory levies and taxes (except corporate income tax).

7.35 The Applicant shall submit details on O&M expenses as required by the Commission. The O&M expenses for the Base Year shall be approved by the Commission taking into account the audited accounts, business plan filed by the Licensees, estimates of the actuals for the Base Year, prudence check and any other factor considered appropriate by the Commission.

7.36 O&M expenses permissible towards ARR for each year of the Control Period shall be determined using the formula detailed below:

(a)  $O\&M_n = (R\&M_n + EMP_n + A\&G_n) * (1 - X_n) + \text{Terminal liabilities}$

Where,  $R\&M_n = K * GFA$ ;

$EMP_n + A\&G_n = (EMP_{n-1} + A\&G_{n-1}) * (INDX_n / INDX_{n-1})$  ; and

$INDX = 0.55 * CPI + 0.45 * WPI$

Where

(b)  $R\&M_n$  – Repair and Maintenance Costs of the Licensee for the  $n^{\text{th}}$  year;

- (c)  $A\&G_n$  – Administrative and General Costs of the Licensee for the  $n^{\text{th}}$  year;
- (d)  $EMP_n$  – Employee Costs of the Licensee excluding terminal liabilities for the  $n^{\text{th}}$  year;
- (e)  $X_n$  is an efficiency factor for  $n^{\text{th}}$  year. Value of  $X_n$  shall be determined by the Commission in the MYT Tariff order based on Licensee's filing, benchmarking, approved cost by the Commission in past and any other factor the Commission feels appropriate.
- (f) 'K' is a constant (expressed in %) governing the relationship between R&M costs and Gross Fixed Assets (GFA) and will be calculated based on the % of R&M to GFA of the preceding year of the Base Year;
- (g) 'GFA' is the opening value of the gross fixed asset of the  $n^{\text{th}}$  year;
- (h)  $INDX_n$  – Inflation factor to be used for indexing the employee cost and A&G cost. This will be a combination of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) for immediately preceding year before the base year;

Note 1: For the purpose of estimation, the same  $INDX_n$  value shall be used for all years of the control period. However, the Commission will consider the actual values in the  $INDX_n$  at the end of each year during the Annual Performance Review exercise and true up the employee cost and A&G expenses on account of this variation, for the Control Period;

Note 2: Any variation due to changes recommended by the Pay Commission etc will be considered separately by the Commission.

Note 3: Terminal Liabilities will be approved as per actual submitted by the Licensee or be established through actuarial studies.

### **Tax on Income**

- 7.73 Tax on the income streams of the Transmission Licensee shall not be recovered from the Beneficiaries.

Provided that the deferred tax liability, excluding Fringe Benefit Tax, for the period up to 31st March, 2016 whenever it materializes, shall be recoverable directly from the beneficiaries and the long-term customers;

Provided further that any tax liability on incentives and savings due to improved performance on any parameter, if any, shall be considered for passing onto the Beneficiaries in the ratio of the sharing of the gains as prescribed under these Regulations:

### **Non-Tariff Income**

- 7.38 All incomes being incidental to electricity business and derived by the Licensee from sources, including but not limited to profit derived from disposal of assets, rents, delayed payment surcharge, miscellaneous receipts from the Beneficiaries shall constitute Non-Tariff Income of the Licensee.
- 7.39 The amount received by the Licensee on account of Non-Tariff Income shall be deducted from the aggregate revenue requirement in calculating the net revenue requirement of such Licensee.

#### **Other Income of the Transmission Licensee**

- 7.40 Where the Transmission Licensee is engaged in any other business, the revenue from Other Business shall be treated as income to the extent authorized by the Commission under Section 41 of the Act.

#### **Quality of Supply**

- 7.41 The Commission shall monitor the following Quality of Supply parameters during the Control Period:
- (a) Transmission System Availability
  - (b) Transformer Failure, across various capacities which represents the number of transformer failures as a percentage of the total number of transformers in that specified capacity within the Transmission System, over a specified period of time.
- 7.42 The Transmission Licensee in its Business Plan filings shall submit and propose the trajectory for the achievement of quality targets. The Commission will specify the targets for each parameter. The Transmission Licensee shall submit its performance on each parameter in the form and manner specified by the Commission.

### **A8: TRANSMISSION SYSTEMS**

#### **Components of tariff**

- 8.1 The tariff for transmission of electricity on intra-State transmission system shall comprise transmission charge for recovery of annual fixed cost consisting of the components specified in clause 0 of these Regulations.
- 8.2 The Annual Fixed Cost (AFC) of a Transmission System shall consist of the following components –
- (a) Return on Equity;
  - (b) Interest and Financing Charges on Loan Capital;
  - (c) Depreciation;
  - (d) Operation and Maintenance Expenses; and

(e) Interest Charges on Working Capital;

### **Norms of operation**

- 8.3 **Normative Annual Transmission System Availability factor (NATSAF):** for recovery of full transmission charges shall be as under:

**For recovery of Annual Fixed Charges:**

**AC system:** 98.0% for the tariff period FY 2017-2021.

**For incentive consideration:**

**AC system:** 98.50% for the tariff period FY 2017-2021

Provided that no incentive shall be payable for availability beyond 99.75%:

Provided further that for AC system, two tripping per year shall be allowed. After two tripping in a year, additional 12 hours outage shall be considered in addition to the actual outage:

Provided also that in case of outage of a transmission element affecting evacuation of power from a generating station, outage hour shall be multiplied by a factor of 2.

- 8.4 **Auxiliary Energy Consumption in the sub-station**

**AC System:** The charges for auxiliary energy consumption in the AC sub-station for the purpose of air-conditioning, lighting and consumption in other equipment shall be borne by the Transmission Licensee and included in the normative operation and maintenance expenses.

### **Annual Transmission Charge**

- 8.5 The Transmission Licensee shall be entitled to recover its Annual Transmission Charges (ATC) from Beneficiaries as specified in clauses 0 to 0 of these Regulations.

### **Recovery of Fixed Charges**

- 8.6 The fixed cost of the Transmission System shall be computed on annual basis, in accordance with norms contained in these Regulations, aggregated as appropriate, and recovered on monthly basis as transmission charge from the users.

- 8.7 The transmission charge (inclusive of incentive) payable for a calendar month for a Transmission System or part thereof shall be

- a. For TAFM < 98%

$$AFC \times (NDM/NDY) \times (TAFM/98\%)$$

- b. For TAFM: 98% < TAFM < 98.5%

$$\text{AFC} \times (\text{NDM/NDY}) \times (1)$$

- c. For TAFM:  $98.5\% < \text{TAFM} < 99.75\%$

$$\text{AFC} \times (\text{NDM/NDY}) \times (\text{TAFM}/98.5\%)$$

- d. For TAFM  $> 99.75\%$

$$\text{AFC} \times (\text{NDM/NDY}) \times (99.75\%/98.5\%)$$

Where,

AFC = Annual fixed cost specified for the year, in Rupees;

NDM = Number of days in the month;

NDY = Number of days in the year; and

TAFM = Transmission system availability factor for the month, in Percent, computed in accordance with **Appendix –III** to these Regulations.

- 8.8 The Transmission Licensee shall raise the bill for the transmission charge (inclusive of incentive) for a month based on its estimate of TAFM. Adjustments, if any, shall be made on the basis of the TAFM to be certified by the SLDC within 30 days from the last day of the relevant month.

### **Allocation of Annual Transmission Charge**

- 8.9 The Annual Transmission Charge (ATC) shall be divided between Beneficiaries of the Transmission System on monthly basis based on the Allotted Transmission Capacity or contracted capacity, as the case may be.
- 8.10 If a Transmission System has been created for a particular Long-Term Transmission Customer including dedicated transmission line(s) for a generating station, transmission charges for such Transmission System shall be payable by that Long-Term Transmission Customer.
- 8.11 For Intra-State Transmission System, the monthly transmission charges shall be pooled for sharing by Long-Term Transmission Customers in accordance with the following formula:

Transmission Charges for intra-state system payable for a month by a Long-term Transmission Customer of that Transmission System

$$= \left( \sum_{i=1}^n \frac{TC_i}{12} \right) \times \frac{CL}{SCL}$$

Where,

TC<sub>i</sub> = Annual Transmission Charges for the i<sub>th</sub> Project in the State computed in accordance with these Regulations;

n = Number of Projects in the State;

CL = Allotted Transmission Capacity to the Long-Term Transmission Customer;

SCL = Sum of the Allotted Transmission Capacities to all the Long-Term Transmission Customers of the State Transmission System.

- 8.12 In the case of Medium-term users of the Intra-State Transmission System, charges payable shall be in proportion to the MW for which medium-term usage has been approved by the State Transmission Utility for that month.
- 8.13 In the case of Short Term Open Access Customers, charges payable shall be calculated in accordance to following methodology:

$$ST\_RATE = 0.25 \times [ATC / Av\_CAP] / 365;$$

Where,

ST\_RATE is the rate for short-term open access customer in Rs per MW per day;

ATC is Annual Transmission Charge;

Av\_CAP means the average capacity in MW served by the transmission system of the Transmission Licensee in the last Financial Year and shall be the sum of the generating capacities connected to the transmission system and contracted capacities of other transactions handled by the system of the Transmission Licensee;

- 8.14 25% of the charges collected from the Short Term Open Access customer shall be retained by the Transmission Licensee and the balance 75% shall be adjusted towards reduction in the transmission service charges payable by the Beneficiaries other than Short Term Transmission Customers.
- 8.15 Transmission charges corresponding to any plant capacity for which a Beneficiary has not been identified and contracted shall be paid by the concerned generating company.

### **Late Payment Surcharge**

- 8.16 In case the payment of any bills for charges payable under these Regulations is delayed by a beneficiary beyond a period of 60 days from the date of billing a late payment surcharge at the rate of 1.25% per month, calculated on daily basis, shall be levied by the Transmission Licensee.

**Rebate**

- 8.17 For payment of bills of the Transmission Licensee through a letter of credit on presentation, a rebate of 2% shall be allowed. If the payment is made by any other mode but within a period of one month of presentation of bills by the Transmission Licensee, a rebate of 1% shall be allowed.

**A9: OTHER PROVISIONS****Sharing of CDM Benefits**

- 9.1 The proceeds of carbon credit from approved CDM project shall be shared in the following manner, namely-
- (a) 100% of the gross proceeds on account of CDM to be retained by the project developer in the first year after the date of commercial operation of the Transmission System, as the case may be;
  - (b) in the second year, the share of the Beneficiaries shall be 10% which shall be progressively increased by 10% every year till it reaches 50%, whereafter the proceeds shall be shared in equal proportion, by the Transmission Licensee, as and the Beneficiaries.

**Deviation from norms**

- 9.2 The transmission charges by the Transmission Licensee may also be determined in deviation of the norms specified in these Regulations subject to the conditions that-
- (a) The levelised Tariff over the useful life of the Project, calculated based on the discounting factor as notified by the CERC from time to time for the Projects under Section 63 of the Act, on the basis of the norms in deviation does not exceed the levelised Tariff calculated on the basis of the norms specified in these Regulations; and
  - (b) Any deviation shall come into effect only after approval by the Commission, for which an application shall be made by the Transmission Licensee before filing tariff petition / ARR for determination of Tariff.

**Foreign Exchange Rate Variation**

- 9.3 The Transmission Licensee may hedge foreign exchange exposure in respect of the interest on foreign currency loan and repayment of foreign loan acquired for the Transmission System, in part or full in the discretion of the Transmission Licensee.
- 9.4 Every Transmission Licensee shall recover the cost of hedging of Foreign Exchange Rate Variation corresponding to the normative foreign debt, in the relevant Year on Year-to-Year basis as expense in the period in which it arises and extra rupee liability corresponding to such foreign exchange rate variation shall not be allowed against the hedged foreign debt.



- 9.5 To the extent the Transmission Licensee is not able to hedge the foreign exchange exposure, the extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign currency loan in the relevant Year shall be permissible provided it is not attributable to the Generating Company or its suppliers or contractors.
- 9.6 The Transmission Licensee shall recover the cost of hedging and Foreign Exchange Rate Variation on Year-to-Year basis as income or expense in the period in which it arises.

#### **Application fee and the publication expenses**

- 9.7 The application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may in the discretion of the Commission, be allowed to be recovered by the Transmission Licensee directly from the Beneficiaries.

### **CHAPTER IV:**

### **PROCEDURE FOR FILING OF ARR**

#### **A10: MULTI YEAR TARIFF FILING PROCEDURE**

- 10.1 The Multi Year Tariff filing shall be in such form and in such manner as may be decided by the Commission and as per the provisions of Conduct of Business Regulations.
- 10.2 The Applicant shall also submit the Multi Year Tariff filing in electronic format to the Commission.
- 10.2 The Transmission Licensee shall file tariff petition for the Control Period in accordance with the MYT framework contained in these Regulations failing which:
- (a) The return on equity shall be zero for entire duration of the Control Period;
  - (b) The Commission shall issue the MYT order suo-motu
- 10.3 Both 'Beginning of the Control Period filings' and 'Annual filings' as explained below shall be made available by the Licensee in both English and Hindi.

#### **Beginning of the Control Period Filings**

- 10.5 The Transmission Licensee shall file for the Commission's approval, no later than 1st April of the year preceding the start of the Control Period, a Business Plan and a Capital Investment Plan in accordance with clause **Error! Reference source not found.** to 0 of these Regulations;
- 10.6 The Applicant shall file the application for approval of ARR and Transmission Tariff for each year of the Control Period consistent with the Business Plan, not less than 120 days before the commencement of the first year of the Control Period or such other date as may be directed by the Commission.
- 10.7 The filings for Transmission Tariff shall contain the following:

- (a) The Transmission System or network usage forecast for each year of the Control Period, consistent with the Business Plan;
- (b) Proposals for transmission tariff design for each year of the Control Period, including the losses to be charged and the procedure thereof;
- (c) Proposal for transmission tariff rate for the each year of the Control Period supported by adequate justification;
- (d) Proposal for reactive energy charges;
- (e) Proposal for SLDC charges; and
- (f) Expected Revenue from the Licensed Business, Non-Tariff Income and income from Other Business and other matters considered appropriate by the Transmission Licensee.

### **Annual Filings for the Control Period**

- 10.8 The Transmission Licensee shall submit periodic returns as may be specified, containing operational and cost data to enable the Commission to monitor the implementation of its MYT order.
- 10.9 The Transmission Licensee shall submit to the Commission annual statements of its performance and accounts including latest report of audited accounts.

### **A11: DISPOSAL OF APPLICATION**

- 11.1 The Commission shall process the filings made by the Transmission Licensee in accordance with these Regulations and the Conduct of Business Regulations.
- 11.2 Based on the Transmission Licensee's filings, objections/ suggestions from public and other stakeholders, the Commission may accept the application with such modifications and/or such conditions as may be deemed just and appropriate and issue, within 120 days of the receipt of the application and after considering all suggestions and objections from public and other stakeholders, an Order containing inter alia:
  - (a) Trued up cost components for the year preceding the base year, estimation of parameters for the Base Year and determination of ARR & Transmission Tariff for each year of the Control Period. The Order shall also contain the approved Business plan, targets for controllable items for the Control Period.

### **A12: PERIODIC REVIEWS**

#### **Review during Control period**

- 12.1 To ensure smooth implementation of the Multi Year Tariff (MYT) framework, the Commission may undertake periodic reviews of Transmission Licensees' performance during the Control Period, to address any practical issues, concerns or unexpected outcomes that may arise.

- 12.2 The Transmission Licensee shall submit information as part of annual performance review on actual performance to assess the performance vis-à-vis the targets approved by the Commission at the beginning of the Control Period. This shall include annual statements of its performance and accounting statements and the tariff worked out in accordance with these Regulations.
- 12.3 During the Annual Performance Review, the Commission shall monitor the year wise progress of the actual capital expenditure incurred by the Licensee vis-à-vis the approved capital expenditure. The Transmission Licensee shall submit the actual capital expenditure incurred along with the Annual Performance Review Filing.
- 12.4 In case during the Annual Performance Review, the cumulative (up to the current year starting from first year of the control period) actual capital expenditure incurred is less than by 10% of the cumulative approved capital expenditure, the Commission shall true-up the costs incidental to the actual capital expenditure in the current year and remaining years of the control period.
- 12.5 The Commission may also direct any modifications to the forecast of the Transmission Licensee for the remainder of the Control Period, with detailed reasons for the same.

#### **Review at the end of the Control Period**

- 12.6 Towards the end of the Control Period, the Commission shall seek to review if the implementation of the principles laid down in these Regulations has achieved their intended objectives. While doing this, the Commission shall take into account, among other things, the industry structure, sector requirements, consumer and other stakeholder expectations and Applicant's requirements at that point in time. Depending on the requirements of the sector to meet the objects of the Act, the Commission may revise the principles for the second Control Period.
- 12.7 The end of the first Control Period shall be the beginning of the second Control Period and the Transmission Licensee shall follow the same procedure unless required otherwise by the Commission. The Commission shall analyse the performance of the Transmission Licensee with respect to the targets set out at the beginning of the first Control Period and based on the actual performance, expected efficiency improvements and other factors prevalent, determine the initial values for the next Control Period

#### **A13: TRUING UP**

- 13.1 The true-up for the Control Period shall be as per clause 0 and 0 of these Regulations.

#### **A14: MISCELLANEOUS**

##### **Issue of Orders and Practice Directions**

- 14.1 Subject to the provision of the Act and these Regulations, the Commission may, from time to time, issue Orders and Practice directions in regard to the implementation of these Regulations and procedure to be followed on various matters, which the Commission has been empowered by these Regulations to direct, and matters incidental or ancillary thereto.

- 14.2 Notwithstanding anything contained in these Regulations, the Commission shall have the authority, either suo motu or on a petition filed by any interested or affected party, to determine the tariff of any Applicant.

#### **Powers to remove difficulties**

- 14.3 If any difficulty arises in giving effect to any of the provisions of these Regulations, the Commission may, by a general or special order, not being inconsistent with the provisions of these Regulations or the Act, do or undertake to do things or direct the Transmission Company to do or undertake such things which appear to be necessary or expedient for the purpose of removing the difficulties.

#### **Power of Relaxation**

- 14.4 The Commission may in public interest and for reasons to be recorded in writing, relax any of the provision of these Regulations.

#### **Interpretation**

- 14.5 If a question arises relating to the interpretation of any provision of these Regulations, the decision of the Commission shall be final.

#### **Saving of Inherent Powers of the Commission**

- 14.6 Nothing contained in these Regulations shall limit or otherwise affect the inherent powers of the Commission from adopting a procedure, which is at variance with any of the provisions of these Regulations, if the Commission, in view of the special circumstances of the matter or class of matters and for reasons to be recorded in writing, deems it necessary or expedient to depart from the procedure specified in these Regulations.

#### **Enquiry and Investigation**

- 14.7 All enquiries, investigations and adjudications under these Regulations shall be done by the Commission through the proceedings in accordance with the provisions of the Conduct of Business Regulations.

#### **Power to Amend**

- 14.8 The Commission, for reasons to be recorded in writing, may at any time vary, alter or modify any of the provision of these Regulations by amendment.

**A15: Summary of timelines**

S. No.	Description	Filing of the Document by	Obtaining additional information and acceptance by the Commission	Approval of the Document
1.	Business Plan for the Control Period	31 <sup>st</sup> October 2015 or on such date as the Commission may direct	Within 30 days of filing of document	Within 45 days of acceptance of the filing
2.	Filing of MYT Petition for the	30 <sup>th</sup> November	Within 30 days of filing	Within 120 days

	Control Period FY 2016-17 to FY 2020-21.	2015 or on such date as the Commission may direct	of document	of acceptance of the filing
3.	Annual Performance Review	30 <sup>th</sup> November of each year of the Control Period	Within 30 days of filing of document	Within 120 days of acceptance of the filing

**Appendix-I: Depreciation Schedule**

S. No	Asset Particulars	Depreciation Rate (Salvage value=10%)
		SLM
A	Land owned under full ownership	0.00%
B	Land under lease	
(a)	For investment in land	3.34%
(B)	For cost of clearing site	3.34%
C	Assets Purchased New	
(a)	Building & civil engineering works of a permanent character, not mentioned above:	
(i)	Offices & showrooms	3.34%
(ii)	Containing thermo-electric generating plant	3.34%
(iii)	Containing hydro-electric generating plant	3.34%
(iv)	Temporary erection such as wooden structures	100.00%
(v)	Roads other than kutcha roads	3.34%
(vi)	Others	3.34%
(b)	Transformers, kiosk sub-station equipment & other fixed apparatus (including plant foundations)	
(i)	Transformers (including foundations) having a rating of 100 kilo volt amperes and over	5.28%
(ii)	Others	5.28%
(c)	Switchgear, including cable connections	5.28%
(d)	Lightning arrestors:	
(i)	Station type	5.28%
(ii)	Pole type	5.28%
(iii)	Synchronous condenser	5.28%
(e)	Batteries	5.28%
(i)	Underground cable including joint boxes and disconnected boxes	5.28%
(ii)	Cable duct system	5.28%
(f)	Overhead lines including cable support	
(i)	Lines on fabricated steel operating at terminal voltages higher than 66 kV	5.28%
(ii)	Lines on steel supports operating at terminal voltages higher than 13.2 kV but not exceeding 66 kV	5.28%
(iii)	Lines on steel or reinforced concrete supports	5.28%
(iv)	Lines on treated wood supports	5.28%
(g)	Meters	5.28%
(h)	Self propelled vehicles	9.50%
(i)	Air conditioning plants:	
(i)	Static	5.28%
(ii)	Portable	9.50%
(j)		
(i)	Office furniture and furnishings	6.33%
(ii)	Office equipments	6.33%
(iii)	Internal wirings including fittings and apparatus	6.33%
(iv)	Street Light fittings	5.28%
(k)	Apparatus let on hire:	
(i)	Other than motors	9.50%
(ii)	Motors	6.33%
(l)	Communication equipment	

S. No	Asset Particulars	Depreciation Rate (Salvage value=10%)
(i)	Radio and higher frequency carrier systems	6.33%
(ii)	Telephone lines and telephones	6.33%
(m)	IT Equipments	15.00%
(n)	Any other assets not covered above	5.28%



**Appendix-II: Timeline for completion of Projects**

1. The completion time schedule shall be reckoned from the date of investment approval by the Board (of the Transmission Licensee), up to the Date of Commercial Operation of the Units or block or elements of transmission project.
2. The time schedule has been indicated in months in the following paragraphs and tables:

S. No.	Transmission work	Plain area (months)	Hilly Terrain (months)
1	765 kV S/C Transmission line	30	36
2	+/- 500 kV HVDC Transmission line	24	30
3	400 KV D/C Quad Transmission line	32	38
4	400 KV D/C Triple Transmission line	30	36
5	400 KV D/C Twin Transmission line	28	34
6	400 KV S/C Twin Transmission line	24	30
7	220 KV D/C Twin Transmission line	28	34
8	220 KV D/C Transmission line	24	30
9	220 KV S/C Transmission line	20	26
10	New 220 KV AC Sub-Station	18	21
11	New 400 KV AC Sub-Station	24	27
12	New 765 KV AC Sub-Station	30	34

**Notes:**

- (i). In case a scheme having combination of the above mentioned types of Projects, the qualifying time schedule of the activity having maximum time period shall be considered for the scheme as a whole.
  - (ii). In case a transmission line falls in plain as well as hilly terrain/ very difficult terrain, the composite qualifying time schedule shall be calculated giving proportional weightage to the line length falling in each area.
  - (iii). **Appendix-III: Procedure for Calculation of Transmission System Availability Factor for a Month**
1. Transmission System Availability factor for a calendar month (TAFM) shall be calculated by the respective Transmission Licensee, got verified and certified by the SLDC and separately for each AC transmission system and grouped according to sharing of transmission charges. For the purpose of calculation of TAFM:
    - (i) AC transmission lines: Each circuit of AC transmission line shall be considered as one element
    - (ii) Inter-Connecting Transformers (ICTs): Each ICT bank (three single phase transformer together) shall form one element
    - (iii) Static VAR Compensator (SVC): SVC along with SVC transformer shall form one element. However, 50% credit to inductive and 50% to capacitive rating shall be given

- (iv) Bus Reactors/Switchable line reactors: Each Bus Reactors/Switchable line reactors shall be considered as one element.
- (v) HVDC Bi-pole links: Each pole of HVDC link along with associated equipment at both ends shall be considered as one element.
- (vi) HVDC back-to-back station: Each block of HVDC back-to-back station shall be considered as one element. If associated AC line (necessary for transfer of interregional power through HVDC back-to-back station) is not available, the HVDC back-to-back station block shall also be considered as unavailable.

2. The Availability of AC and HVDC portion of Transmission system shall be calculated as under:

% TAFM for AC system

$$[(o \times AV_o + p \times AV_p + q \times AV_q + r \times AV_r) / (o + p + q + r)] \times 100$$

Where

o = Total number of AC lines.

AV<sub>o</sub> = Availability of o number of AC lines.

p = Total number of bus reactors/switchable line reactors

AV<sub>p</sub> = Availability of p number of bus reactors/switchable line reactors

q = Total number of ICTs.

AV<sub>q</sub> = Availability of q number of ICTs.

r = Total number of SVCs.

AV<sub>r</sub> = Availability of r number of SVCs.

3. The weightage factor for each category of transmission elements shall be as under:

- a. For each circuit of AC line – Surge Impedance Loading for Uncompensated line (SIL) multiplied by ckt-km.

SIL rating for various voltage level and conductor configuration is given in **Appendix-IV**. However, for the voltage levels and/or conductor configurations not listed in **Appendix-IV**, appropriate SIL based on technical considerations may be used for availability calculation under intimation to long-term transmission customers/DICs.

For compensated AC line, Surge Impedance Loading (SIL) shall be as certified by the Regional Power Committee (RPC) Secretariat considering the compensation on the line.

For shunt compensated line the reduced value of SIL shall be taken in accordance with the location of the reactor. Similarly in case of the lines with series compensation the higher SIL shall be taken as per the percentage of compensation.

- b. For each HVDC pole – The rated MW capacity x ckt-km
- c. For each ICT bank – The rated MVA capacity
- d. For SVC- The rated MVAR capacity (inductive and capacitive)

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- e. For Bus Reactor/switchable line reactors – The rated MVAR capacity.
  - f. For HVDC back-to-back station connecting two Regional grids- Rated MW capacity of each block.
4. The availability for each category of transmission elements shall be calculated based on the weightage factor, total hours under consideration and non-available hours for each element of that category. The formulae for calculation of Availability of each category of the transmission elements are as per **Appendix-V**.
5. The transmission elements under outage due to following reasons shall be deemed to be available:
- (a) Shut down availed for maintenance or construction of elements of another transmission scheme. If the other transmission scheme belongs to the Transmission Licensee, the SLDC may restrict the deemed availability period to that considered reasonable by him for the work involved.
  - (b) Switching off of a transmission line to restrict over voltage and manual tripping of switched reactors as per the directions of SLDC.
6. Outage time of transmission elements for the following contingencies shall be excluded from the total time of the element under period of consideration.
- (a) Outage of elements due to force majeure events such as war, strike, riot, floods, earthquake etc beyond the control of the Transmission Licensee. However, onus of satisfying the SLDC that element outage was due to aforesaid events and not due to design failure shall rest with the Transmission Licensee. A reasonable restoration time for the element shall be considered by SLDC and any additional time taken by the Transmission Licensee for restoration of the element beyond the reasonable time shall be treated as outage time attributable to the Transmission Licensee. SLDC may consult the Transmission Licensee or any expert for estimation of reasonable restoration time. Circuits restored through ERS (Emergency Restoration System) shall be considered as available.
  - (b) Outage caused by grid incident/disturbance not attributable to the Transmission Licensee, e.g. faults in substation or bays owned by other agency causing outage of the Transmission Licensee's elements, and tripping of lines, ICTs, etc. due to grid disturbance. However, if the element is not restored on receipt of direction from SLDC while normalizing the system following grid incident/disturbance within reasonable time, the element will be considered not available for the period of outage after issuance of SLDC's direction for restoration.

**(c) Appendix IV: Surge Impedance Loading (SIL) of AC Lines**

S.No	Line voltage (kV)	Conductor Configuration	SIL (MW)
1	765	Quad Bersimis	2250
2	400	Quad Bersimis	691
3	400	Twin Moose	515
4	400	Twin AAAC	425
5	400	Quad Zebra	647
6	400	Quad AAAC	646
7	400	Tripple Snowbird	605
8	400	ACKC(500/26)	556
9	400	Twin ACAR	557
10	220	Twin Zebra	175
11	220	Single Zebra	132
12	132	Single Panther	50
13	66	Single Dog	10

## Appendix V: Formulae for calculation of availability of each category of transmission elements

$$AV_L(\text{Availability of } n \text{ nos. of AC lines}) = \frac{\sum_{i=1}^n W_i(T_i - T_{ind})}{\sum_{i=1}^n W_i}$$

$$AV_H(\text{Availability of } n \text{ nos. of HVDC pole}) = \frac{\sum_{j=1}^n W_j(T_j - T_{ind})}{\sum_{j=1}^n W_j}$$

$$AV_K(\text{Availability of } q \text{ nos. of ICTs}) = \frac{\sum_{k=1}^q W_k(T_k - T_{ind})}{\sum_{k=1}^q W_k}$$

$$AV_L(\text{Availability of } n \text{ nos. of SVCs}) = \frac{\left[ \sum_{l=1}^n W_l(T_l - T_{ind}) + \sum_{l=1}^n 0.5 W_l(T_{cl} - T_{ind}) \right]}{\left[ \sum_{l=1}^n W_l + \sum_{l=1}^n 0.5 W_l \right]}$$

$$AV_M(\text{Availability of } p \text{ nos. of switched Bus reactor}) = \frac{\sum_{m=1}^p W_m(T_m - T_{ind})}{\sum_{m=1}^p W_m}$$

Where

$W_i$  = Weightage factor for  $i^{\text{th}}$  transmission line

$W_j$  = Weightage factor for  $j^{\text{th}}$  HVDC pole

$W_k$  = Weightage factor for  $k^{\text{th}}$  ICT

$W_{il}$  &  $W_{cl}$  = Weightage factors for inductive & capacitive operation of  $l^{\text{th}}$  SVC

$W_m$  = Weightage factor for  $m^{\text{th}}$  bus reactor

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$T_i, T_j, T_k, T_{il}, T_{cl}, T_m \& T_n$	The total hours of $i$ th AC line, $j$ th HVDC pole, $k$ th ICT, $l$ th SVC (Inductive Operation), $l$ th SVC (Capacitive Operation), $m$ th Switched Bus Reactor & $n$ th HVDC back-to-back block during the period under consideration (excluding time period for outages not attributable to transmission licensee for reasons given in Para 6 of the procedure)
$TNA_i, TNA_j, TNA_k, TNA_{il}, TNA_{cl}, TNA_m, TNA_n$	The non-availability hours (excluding the time period for outages not attributable to transmission licensee taken as deemed availability as per Para 5 of the procedure) for $i$ th AC line, $j$ th HVDC pole, $k$ th ICT, $l$ th SVC (Inductive Operation), $l$ th SVC (Capacitive Operation), $m$ th Switched Bus Reactor and $n$ th HVDC back-to-back block .

By order of the Commission  
**A.K. Mehta,**  
 Secretary  
 Jharkhand State Electricity Regulatory Commission

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